Installation and Operation Manual

SiteSync IQ®

Wireless Digital Clock/ Elapsed Time Indicator with Code Blue

american time®

Integrated Solutions

Part # H004242
Rev. 4
October 2011

Electric Shock Hazard

WARNING: Hazardous voltage in electrical equipment can cause severe personal injury or death. Inspection, installation, and preventive maintenance should only be performed on equipment to which power has been turned off, disconnected and electrically isolated so no accidental contact can be made with energized parts.

Electrostatic Sensitive Devices

CAUTION: This equipment contains electronic devices that are sensitive to static electric charges. To guarantee protection for the circuitry of this unit, it is required that electrostatic handling precautions be observed when installing or repairing this equipment. Any technician or other personnel working on this unit must wear a static grounding wrist strap or similar device to provide protection of sensitive components.

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Clock/Timer Description

The Digital Clock/Timer is a six digit multi-function clock/timer. This clock functions in a 12 or 24 hour mode which is updated by the SiteSync IQ wireless clock system.

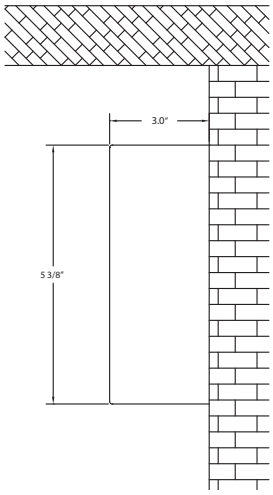
When combined with the ATSTCS Control Station, the clock can also be used as an up or down counting elapsed timer. The elapsed timers can be started, stopped, resumed, and reset. Both timer modes have a programmable preset value. When the timer reaches the preset value, a two second audible alarm sounds from a speaker in the control station. The clock/control station contains a Code Blue count-up timer that overrides all other modes of operation.

Indications

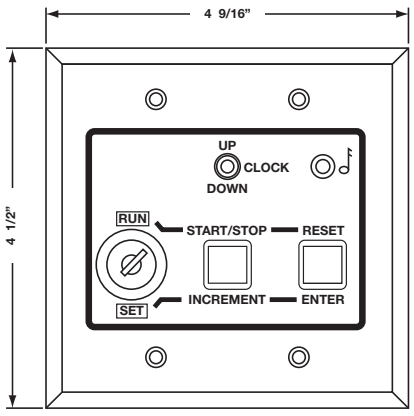
Audible Alarm - Used to indicate that a timer is done counting.

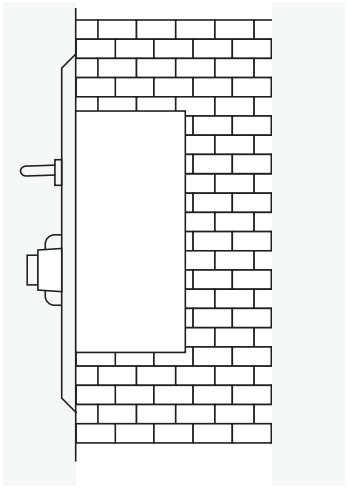
6 Digit Clock Display - Used for displaying time of day, displaying counter value, for setting time, and setting up or down counter preset values.

Digital Clock/Timer



Control Station





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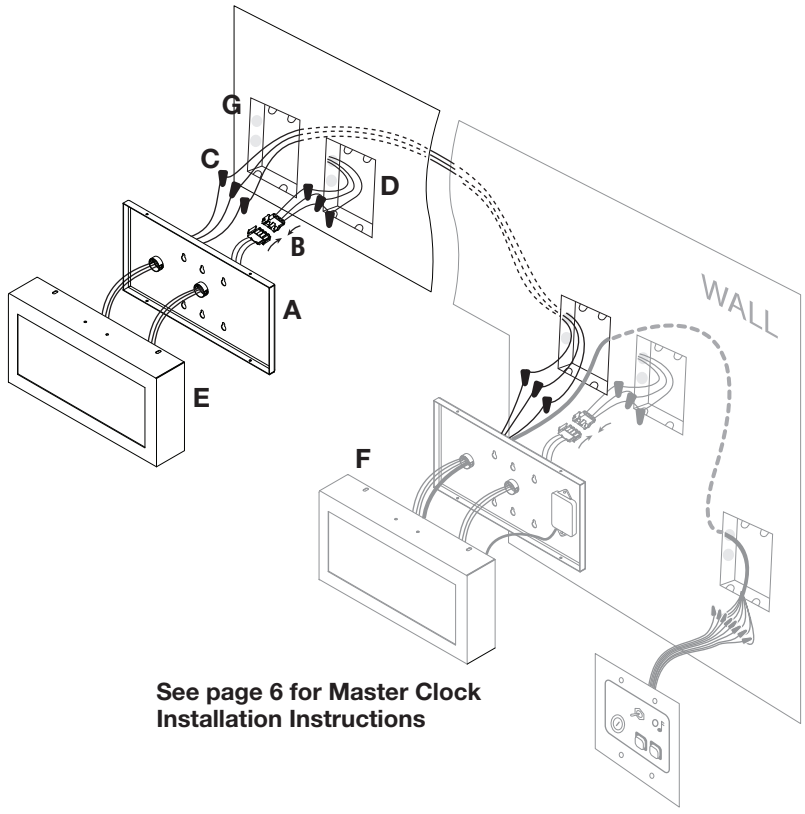
For the SQA261RSAES Digital Clock/Timer

The Digital Clock/Timer can be mounted to a single or double gang box. The secondary bushing is to be used for the control station and SQA261RSAEAS communication low voltage wiring. To install the Digital Clock/Timer, follow the instructions below. **Ensure that installation conforms to the National Electrical Code and local wiring codes.**

CAUTION: Electric Shock Hazard! Disconnect and lock out power to the electrical box before installing or servicing the clock.

1. Disassemble back plate from the clock (A) by removing the 4 sheet metal screws (2 top and 2 bottom). Be sure to keep the screws for reassembly.
2. Make electrical connections in gang box (G) (hot, neutral, ground wires) to non-switched electrical circuit wiring using UL approved wire nuts. Route field wiring away from sharp projections, corners and internal components. For Molex, white to negative/common, black to ositive/hot and green to ground.
3. Join the two Molex connectors (B) together, placing excess wiring and Molex connectors into the gang box (D).
4. Connect the 3-Communication Wire (C) which will be wired to the SQA261RSAEA (master clock) using UL approved wire nuts. See wiring details on page 5.
5. Mount back cover (A) to electrical box (D) using 2 screws (single gang) or 4 screws (double gang). Screws not provided.
6. Assemble the clock cover (E) to the back plate (A) using the screws saved in Step 1 above.
7. Install SQA261RSAEA (master clock) before applying power to the circuit. See page 6.

CAUTION: Electric Shock Hazard! When installing, route field wiring away from sharp projections, corners, and internal components.



See page 6 for Master Clock Installation Instructions

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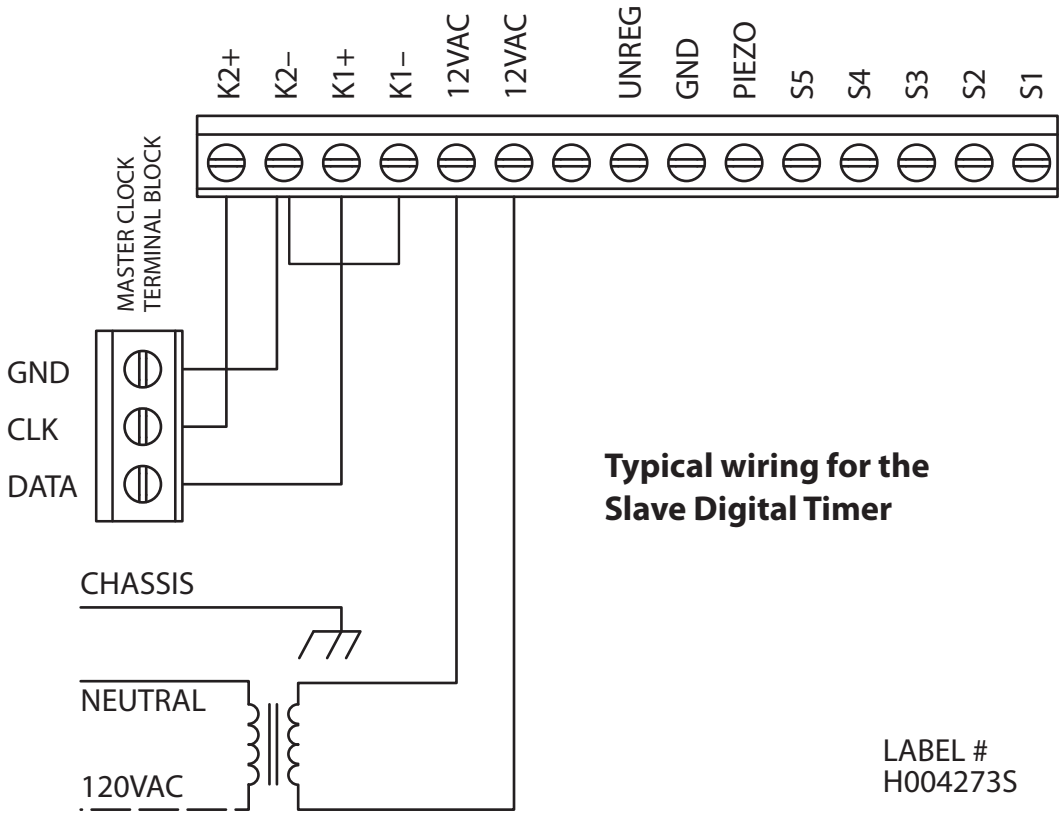
SQA261RSAES Typical Wiring



Typical wiring for the Slave Digital Timer

LABEL #
H004273S

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For the SQA261RSAE & SQA261RSAEA Digital Clock/Timers

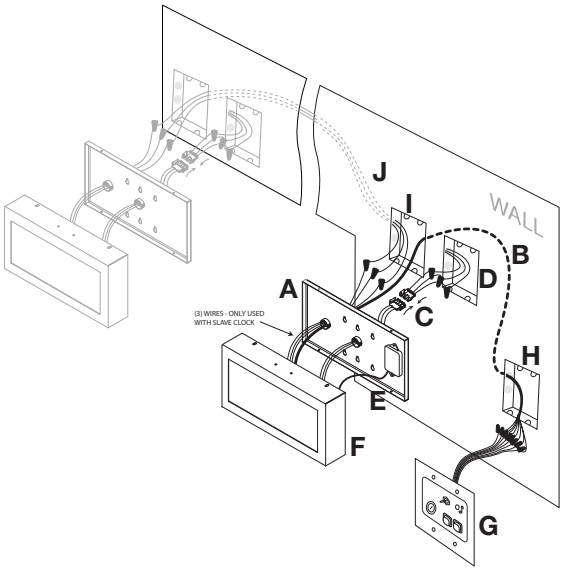
The Digital Clock/Timer can be mounted to a single or double gang box. The secondary bushing is to be used for the conrol station and SQA261RSAEAS communication low voltage wiring. To install the Digital Clock/Timer, follow the instructions below. **Ensure that installation conforms to the National Electrical Code and local wiring codes.**

CAUTION: Electric Shock Hazard! Disconnect and lock out power to the electrical box before installing or servicing the clock.

1. Disassemble back plate from the clock (A) by removing the 4 sheet metal screws (2 top and 2 bottom). Be sure to keep the screws for reassembly.
2. Pull the eight wires of the control station bundle (B) through the secondary bushing of the back plate (A).
3. Make electrical connections in gang box (D) (hot, neutral, ground wires) to non-switched electrical circuit wiring using UL approved wire nuts. Route field wiring away from sharp projections, corners and internal components. For Molex, white to negative/common, black to ositive/hot and green to ground.
4. Join the two Molex connectors (C) together, placing excess wiring and Molex connectors into the gang box (D).
5. If installing an SQA261RSAEA (Master Clock) connect the 3 Interconnecting Wires (J) from the SQA261RSAES (Slave Clock) using UL approved wire nuts.
6. Mount back cover (A) to electrical box (D) using 2 screws (single gang) or 4 screws (double gant). Screws not provided.
7. Make electrical connections from the ATSTCS Control Station (G) to the clock with the eight (8) wires from the control station (H) at this time. See wiring detail on page 8.
8. Connect the RJ11 connector (E) and harness into the RJ11 socket in the receiver module.
9. Assemble the clock cover (F) to the back plate (A) using the screws saved in Step 1 above.
10. Make sure the SiteSync IQ system controller and other equipment is set up and operational.

    ■**Note:** Clocks should be installed within 24 hours of installing the system controller. After 24 hours, the system controller will enter Quiet Mode. Pressing 3-5-7 on the keypad will disable Quiet Mode for 6 hours.
11. Apply power to the circuit and confirm correct operation.
12. Upon startup, the clock will flash the version number and then correct with the first valid signal. This should take less than one minute. If the clock is not updating, review the steps listed above and consult the SiteSync IQ Installation and Operation Manual for additional troubleshooting assistance. If SQA261RSAES was installed, it will copy the display of the SQA261RSAEA.

CAUTION: Electric Shock Hazard! When installing, route field wiring away from sharp projections, corners, and internal components.



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Control Station Switch Functions

Run/Set Switch -

Set Position: This position is used to set a preset up or down counting time (Timer). It is also used to reset the Code Blue timer.

This position is not used for setting time. The controller will allow you to enter in a 12/24 hour mode and set a time. However the time will be controlled and updated by the SiteSync IQ system controller.

Run Position: This position is used to permit Clock/Timer to operate.

Up/Clock/Down Switch -

Up Position: This position is used to choose up counting elapsed timer mode.

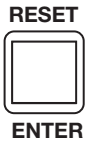
Clock Position: This position is used to choose clock mode.

Down Position: This position is used to choose down counting elapsed timer mode.

Start/Stop/Increment Switch -

This button is used to start, stop, and resume timer count, when Run/Set Switch is in the Run position (Code Blue timer can only be stopped).

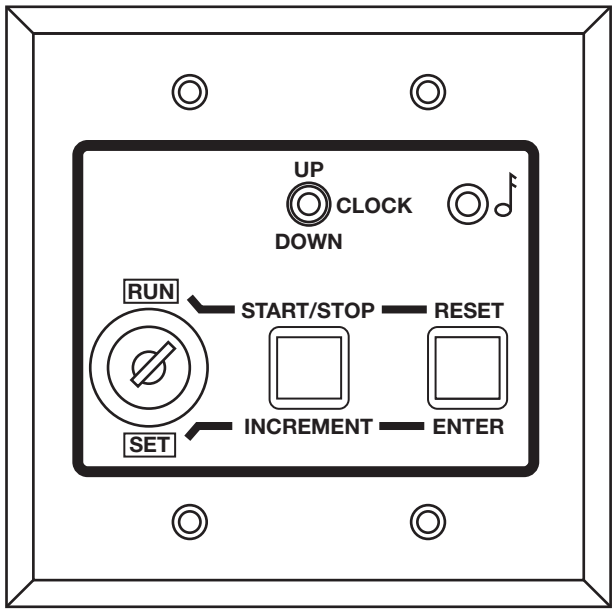
This button is also used to increment/advance the number value being set when the Run/Set Switch is in Set position.



Reset/Enter Switch -

This button is used to used to return a timer (excluding the Code Blue timer) to the beginning of its count, when the Run/Set Switch is in Run position.

This button can also be used to select a field (i.e. format, minute digits, hour digits) when the Run/Set Switch is in Set position.



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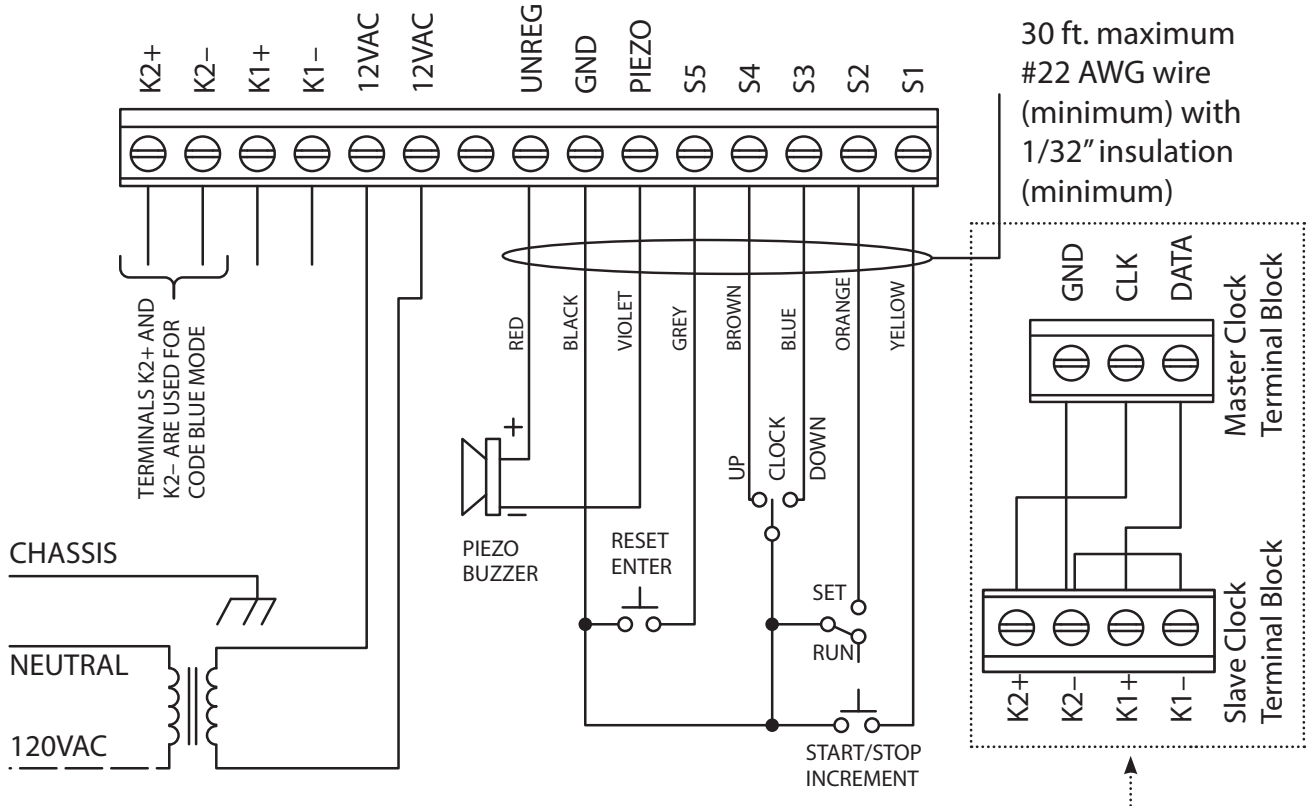
Control Station Installation Instructions

The ATSTCS Control Station can be mounted to a double gang box, 1 1/2 inch deep or deeper. The Control Station can be mounted up to 30 feet away from the Digital Clock/Timer. The recommended minimum interconnecting field wire size is #22.8 AWG stranded wire. **Ensure that installation conforms to the National Electrical Code and local wiring codes.**

CAUTION: Electric Shock Hazard! Ensure that no electrical power is present on any wire before installation.

1. Pull interconnecting field wires into the double gang box.
2. Connect field wiring interconnecting the ATSTCS Control Station with the Digital Clock/Timer to the appropriate wires of the Control Station. See wiring detail below.
3. Mount the Control Station to the double gang box using the machine screws provided.



Typical wiring for the Master Digital Timer with Control Station

■**Note:** Just for use if installing master/slave clocks.

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Operation

Powering Up

1. Before applying power, place the SET/RUN switch to the RUN position and the UP/DOWN/CLOCK switch to the CLOCK position.
2. Apply power to the unit. The displays may rotate during the power on self test and then a version number will appear for a few seconds. Once the receiver inside the clock receives a signal from the SiteSync IQ system controller the clock will display and begin keeping time. At first startup the clock may display a time such as 1:00:00 until it receives the first time update from the SiteSync IQ system controller. This should only take a few seconds, after which the correct time from the SiteSync IQ system controller should appear.
3. If using an SQA261RSAES, this clock will only copy what is displayed on the SQA261RSAEA it is connected to. If power is turned off to the master clock, this clock will also turn off.

Setting Time

Setting of the time is not needed for the digital clock or control station. The time information is automatically updated by the SiteSync IQ system controller. The 12 or 24 hour mode option is configured by the display settings of the system controller.

The ATSTCS control station will allow the user to set a 12 or 24 mode and time when the SET/RUN switch is in the SET position. However, as soon as the SiteSync IQ system controller updates the 12/24 hour mode chosen the time will be reset to the time sent by the SiteSync IQ system controller and the 12/24 mode configured in the system controller. Set the SET/RUN switch to the RUN position and the UP/DOWN/CLOCK switch to the CLOCK position to return the clock display.

Setting up the Counter Preset Time

If you want to use the alarm and hold feature with the UP timer, you will need to set a preset time for the UP timer.

1. Set the UP/DOWN/CLOCK switch to the UP position.
2. Set the SET/RUN switch to the SET position. The hours digits will be flashing.
3. Using the INCREMENT switch, set the desired hours for the preset time, then press ENTER. The minutes digits will now be flashing.
4. Set the desired minutes the same way, then press ENTER. The seconds digits will then be flashing.
5. Set the desired seconds the same way, then press ENTER. The display will then flash **donE**.
6. Set the SET/RUN switch back to the RUN position.

Note: A preset of 00:00:00 allows the digital clock/timer to be used as a standard elapsed timer with a maximum elapsed time of 99:59:59.

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Up Counter Elapsed Time Operation

Once the desired preset value has been set, the unit is now ready to function as an UP count elapsed timer.

1. Be sure the SET/RUN switch is in the RUN position.
2. Set the UP/DOWN/CLOCK switch to the UP position.
3. Press RESET to display **00:00:00**.
4. Press the START/STOP switch to begin counting elapsed time.
5. Press the START/STOP switch again to stop and hold the count.
6. Press the START/STOP switch again to resume elapsed time counting.
7. To start over press RESET to display **00:00:00** again.

When the timer reaches the preset value, it will sound the audible alarm for 2 seconds and hold the time count.

During an UP count elapsed time operation, you can display any of the other time functions using the UP/DOWN/CLOCK switch as desired.

Setting the Down Counter Preset Time

If you are using the clock as a down counting elapsed timer, you will need to set a preset time to count down from. In this mode, the alarm and hold will occur at 00:00:00.

1. Set the UP/DOWN/CLOCK switch to the DOWN position.
2. Set the SET/RUN switch to the SET position. The hours digits will be flashing.
3. Using the INCREMENT switch, set the desired hours for the preset time, then press ENTER. The minutes digits will now be flashing.
4. Using the INCREMENT switch, set the desired minutes for the preset time, then press ENTER. The seconds digits will then be flashing.
5. Using the INCREMENT switch, set the desired seconds for the preset time, then press ENTER. The display will then flash **donE**.
6. Set the SET/RUN switch back to the RUN position.

Down Counter Elapsed Time Operation

Once the desired preset value has been set, the unit is now ready to function as a DOWN count elapsed timer.

1. Set the UP/DOWN/CLOCK switch to the DOWN position.
2. Be sure the SET/RUN switch is in the RUN position.
3. Press RESET to display the preset value which was set previously.
4. Press the START/STOP switch to begin counting down elapsed time.
5. Press the START/STOP switch again to stop and hold the count.
6. Press the START/STOP switch again to resume elapsed time counting.
7. To start over press RESET to display the preset value again.

When the timer reaches 00:00:00, the timer will stop counting and the audible alarm will sound for 2 seconds.

During a DOWN count elapsed time operation, you can display any of the other time functions using the UP/DOWN/CLOCK switch as desired

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Code Blue

Description

The Code Blue feature provides an override which forces the clock into a special count up elapsed time mode. No matter which of the three normal functions is being displayed, Code Blue input will cause the unit to begin counting elapsed time from 00:00:00. All other functions of the unit continue to operate in the background during a Code Blue.

Operation

A Code Blue is initiated by applying a signal ranging from 12vac/vdc to 30vac/vdc to the K2+ and K2- terminals. See the sample wiring diagram below for more detail.

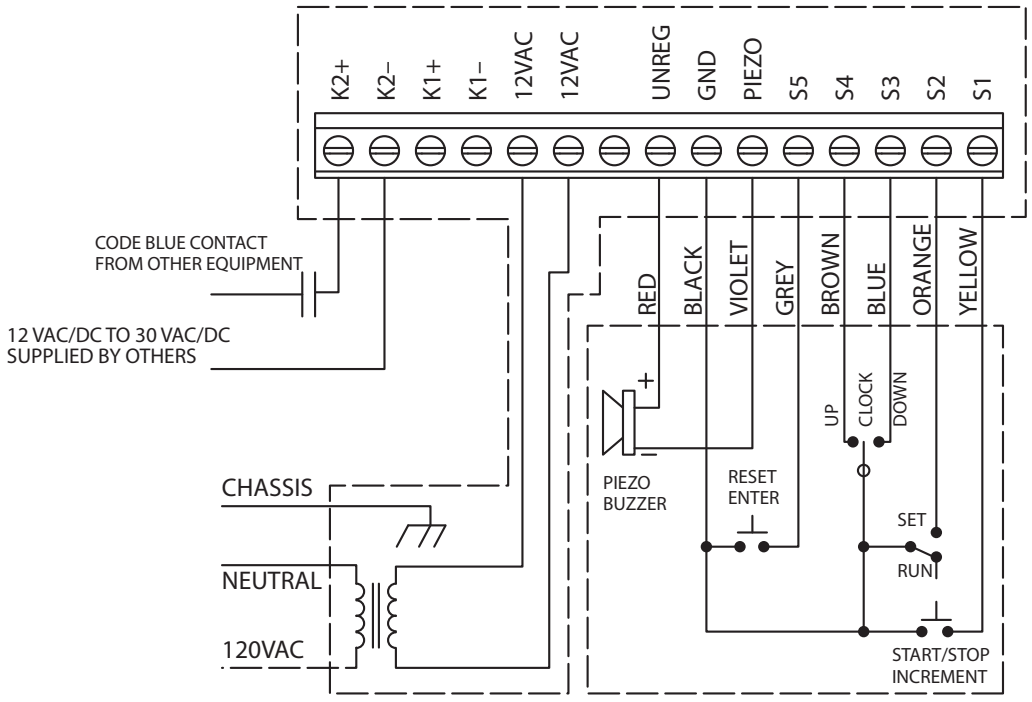
The Code Blue timer is the highest priority function of the clock/timer while in the run mode. No matter which of the 3 normal functions is being displayed, the Code Blue input will cause the clock to begin counting up elapsed time from 00:00:00.

The Code Blue timer can be stopped and the time held for viewing by pressing the START/STOP button on the ATSTCS switch panel. The Code Blue timer cannot be restarted from the switch panel.

To reset the clock back to normal operation, the RUN/SET switch must be set to the SET position momentarily and then returned to the RUN position.

All other functions of the clock continue to operate in the background during a Code Blue. Time of day and time corrections from the SiteSync IQ system controller will not be affected. The standard count up timer and the count down timer will continue as well. However, if one of these timers is switched on for display when a Code Blue occurs, that particular timer will be reset when the clock is reset back to normal operation.

CODE BLUE WIRING



Digital Clock/Timer Code Blue wiring using Control Station.
The Control Station is connected as normal.

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The ATSTCS **must be** in the RUN mode for Code Blue to override.

The 12vac/vdc to 30vac/vdc signal that starts the Code Blue timer originates from equipment external to the Digital Clock/Timer. The external equipment usually employs a switch device (i.e., a relay contact) to apply this signal. That switching device is often referred to as the Code Blue contact.

The Code Blue contact does not have to open before resetting the clock/timer back to normal operation, but must be opened before another Code Blue can occur. The transition from no voltage to applied voltage (across the K2+ and K2- terminals) initiates a Code Blue.

If the Code Blue contact opens and closes again before the clock/timer is reset back to normal operation, the Code Blue timer will start over from 00:00:00.

If a power failure occurs during a Code Blue and the back up battery is in place, and the Code Blue contact is still closed when the power returns, the Code Blue timer will start over from 00:00:00. If the Code Blue contact is open when the power returns, the Code Blue timer will continue counting the elapsed time including the time while the power was off.

If a power failure occurs during a Code Blue after the Code Blue timer has been stopped for viewing, and the Code Blue contact is still closed when the power returns, the Code Blue timer will start over from 00:00:00. If the Code Blue contact is open when the power returns, the elapsed time where the Code Blue timer was stopped prior to the power failure will be displayed.

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Operator Maintenance

Cleaning

Occasionally the Digital Clock/Timer and the Control Station will need to be cleaned. Dampen a soft, nonabrasive cloth with alcohol or a mild detergent. **Do not use abrasives or solvents!** Gently wipe the exteriors of the units with the cloth.

Battery Maintenance

The Digital Clock/Timer uses a single 9vdc Ni-Cad battery rechargeable via an on board charger. This battery retains the time of day and timer counts when 120vac power is lost. If each in a series of 120vac power losses occur for a similar length of time, the battery can be conditioned to provide only that amount of backup capacity. This phenomenon is called “memory” effect. The Ni-Cad battery’s “memory” can be erased by deeply discharging the battery and recharging it.

It is recommended that the operator remove 120vac power from the Digital Clock/Timer once per year for at least four hours.

■**Note:** There is no 9v battey in the SQA261RSAES clock. Only the SQA261RSAEA clock it is connected to has a battery.

WARNING
Replace the battery only with a 9v Ni-Cad battery. Do not replace with a regular (primary) 9v transistor battery (i.e., zinc carbon battery, alkaline battery)! An incompatible battery may leak or explode, causing equipment damage and/or personal injury! If battery must be replaced, contact American Time at 866-748-3796.

System Maintenance

The Digital Clock/Timer and ATSTCS Control Station have been manufactured for years of dependable, reliable use. However, to assure the reliability of this product, it is recommended that the Digital Clock/Timer be tested at least every six (6) months with the Control Station and Code Blue contact for operation in accordance with wiring configurations used.

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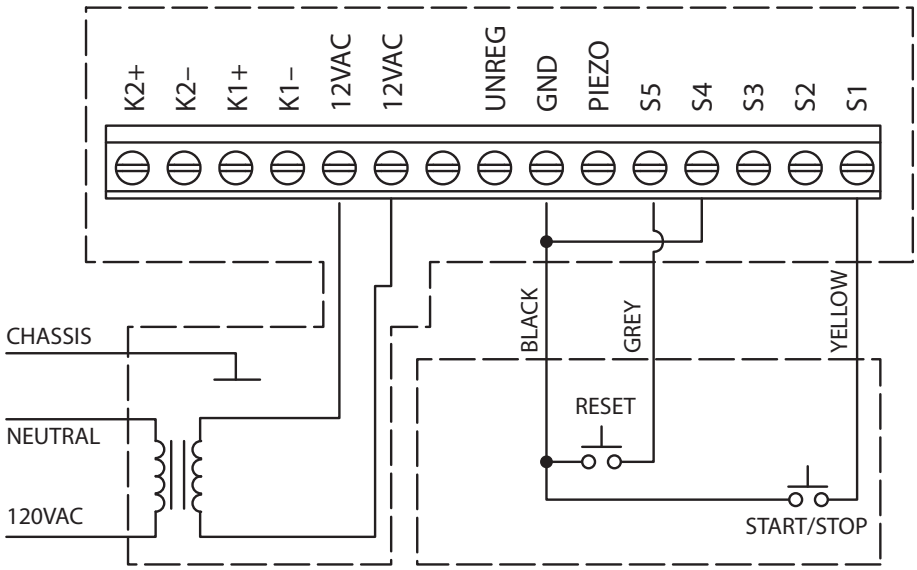
Appendix 1

Using the Digital Clock/Timer as a Count Up Elapsed Timer Only

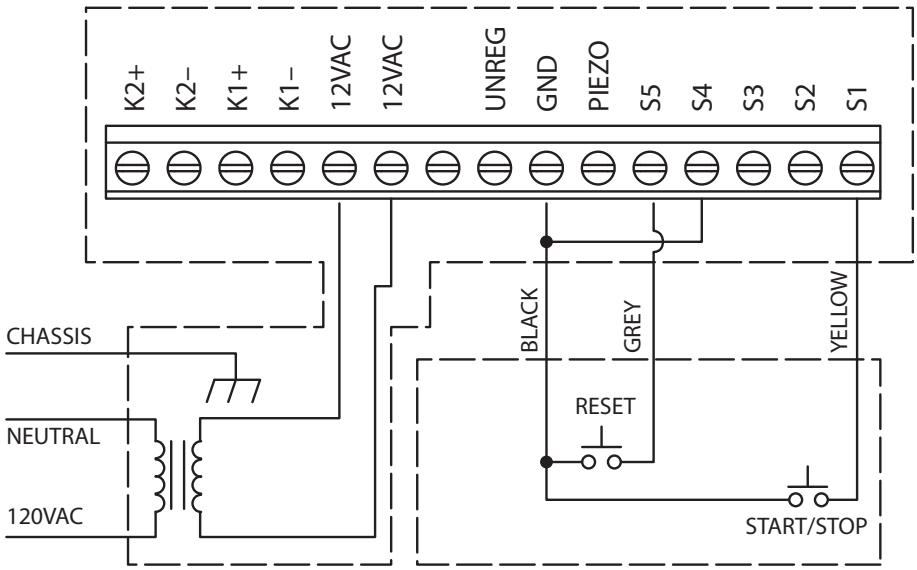
For applications where the user does not want to use the clock and down count functions, the terminal block can be wired as shown below. When wired in this manner, the preset time cannot be changed and the alarm will not sound.



Appendix 2

Using the Digital Clock/Timer as a Count Down Elapsed Timer Only

For applications where the user does not want to use the clock and up count functions, the terminal block can be wired as shown below. When wired in this manner, the preset time cannot be changed and the alarm will not sound.



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Appendix

Appendix 3

Operator's Flowchart

To Set Time
UP/CLOCK/DOWN switch in **CLOCK** position
SET/RUN switch in **SET** position
Clock display 24Hr or 12Hr
Push **INCREMENT** to change
Push **ENTER**
Clock displays flashing hours digits
Push **INCREMENT** to change
Push **ENTER**
Clock displays flashing minutes digits
Push **INCREMENT** to change
Push **ENTER**
Clock displays flashing seconds digits
Push **INCREMENT** to change
Push **ENTER**
Display shows **DONE**
Place SET/RUN switch in **RUN** position

To Use as a Clock
Place SET/RUN switch in **RUN** position
UP/CLOCK/DOWN switch in **CLOCK** position

Code Blue Operation

SET/RUN switch **MUST** be in RUN position

To stop and hold code blue time for viewing, press **START/STOP**

To Reset Clock/Timer to Normal Operation

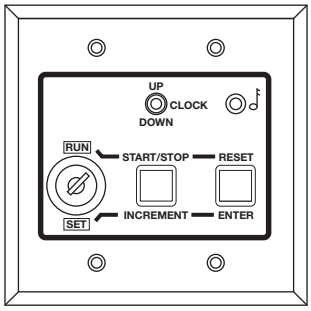
Place SET/RUN switch momentarily in **SET** position and return switch to **RUN** position

To Set UP Counter Preset
UP/CLOCK/DOWN switch in **UP** position
SET/RUN switch in **SET** position
Clock displays flashing hours digits
Push **INCREMENT** to change
Push **ENTER**
Clock displays flashing minutes digits
Push **INCREMENT** to change
Push **ENTER**
Clock displays flashing seconds digits
Push **INCREMENT** to change
Push **ENTER**
Display shows **DONE**
Place SET/RUN switch in **RUN** position

To Use UP Counter
UP/CLOCK/DOWN switch in **UP** position
Place SET/RUN switch in **RUN** position
Place **RESET** to display 00:00:00
Place **START/STOP** to Begin
Place **START/STOP** to Hold
Place **START/STOP** to begin again
Alarm will sound when preset time is reached
Press **RESET** to reset counter

To Set DOWN Counter Preset
UP/CLOCK/DOWN switch in **DOWN** position
SET/RUN switch in **SET** position
Clock displays flashing hours digits
Push **INCREMENT** to change
Push **ENTER**
Clock displays flashing minutes digits
Push **INCREMENT** to change
Push **ENTER**
Clock displays flashing seconds digits
Push **INCREMENT** to change
Push **ENTER**
Display shows **DONE**
Place SET/RUN switch in **RUN** position

To Use DOWN Counter
UP/CLOCK/DOWN switch in **DOWN** position
Place SET/RUN switch in **RUN** position
Place **RESET** to display preset time
Place **START/STOP** to Begin
Place **START/STOP** to Hold
Place **START/STOP** to begin again
Alarm will sound 00:00:00 is reached
Press **RESET** to reset counter



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